



Fact Sheet

NPDES Permit Number: AK-005310-4

Date: February 1999

Contact: Cindi Godsey
Alaska Operations Office/Anchorage
(907) 271-6561 or (800) 781-0983 (in Alaska only)
godsey.cindi@epamail.epa.gov

The U.S. Environmental Protection Agency (EPA) Plans To Issue A Wastewater Discharge Permit To:

**Aaron Gustafson
8355 N. Stony Mountain Way
Flagstaff, Arizona 86001
ph. 520-779-1317**

This will also serve as a notice that the
STATE of ALASKA proposes to CERTIFY,
and that a
DETERMINATION OF CONSISTENCY WITH THE
ALASKA COASTAL MANAGEMENT PROGRAM
will be made.

EPA Proposes NPDES Permit Issuance.

EPA proposes to issue a *National Pollutant Discharge Elimination System* (NPDES) Permit to Aaron Gustafson for a gold dredging operation in Nome, Alaska. The draft permit sets conditions on the discharge - or release - of pollutants from the operation into Norton Sound.

This Fact Sheet includes:

- information on public comment, public hearing, and appeal procedures
- S a description of the facility, its history and current discharge and treatment system
- S a description of proposed effluent limitations , monitoring requirements, and other conditions
- a map and description of the discharges

The State of Alaska proposes certification.

The Alaska Department of Environmental Conservation (ADEC) proposes to certify the NPDES permit for this operation under section 401 of the Clean Water Act.

Consistency Determination under the Alaska Coastal Management Program.

The Alaska Division of Governmental Coordination (ADGC) will began a review of the project on January 20, 1999, to determine its consistency with the Alaska Coastal Management Program (ACMP). Comments are due to ADGC by March 4, 1999.

EPA invites comments on the proposed permit.

EPA will consider all substantive comments before issuing a final permit. Those wishing to comment on the proposed permit may do so in writing by the expiration date of the Public Notice. After the Public Notice expires, and all comments have been considered, EPA's regional Office of Water Director will make a final decision regarding permit issuance.

Persons wishing to comment on the State Certification should submit written comments by the public notice expiration date to the Alaska Department of Environmental Conservation, 610 University Avenue, Fairbanks, Alaska 99709.

Persons wishing to comment on the State's consistency determination should contact Tom Atkinson with ADGC at (907) 269-7474 to obtain the schedule for the review.

If no substantive comments are received, the tentative conditions in the proposed permit will become final, and the permit will become effective upon issuance. If comments are received, the permit will become effective 30 days after the issuance date, unless a request for an evidentiary hearing is submitted within 30 days.

Documents are available for review.

The proposed NPDES permit and related documents can be reviewed at EPA's Regional Office in Seattle between 8:30 a.m. and 4:00 p.m., Monday through Friday. This material is also available for inspection and copying at the following places in Alaska:

USEPA Alaska Operations Office
Federal Building, Room 537
222 West 7th Avenue
Anchorage, Alaska 99513-7588
Telephone: (800) 781-0983 (Within Alaska)

USEPA Alaska Operations Office
410 Willoughby Avenue, Suite 100
Juneau, Alaska 99801
Telephone: (907) 586-7619

ADEC Watershed Development Program
Air and Water Quality Division
610 University Avenue
Fairbanks, AK 99709
Telephone: (907) 451-2141

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I. APPLICANT

NPDES Permit No.: AK-005310-4

Offshore Dredge

Mailing Address:

8355 N. Stony Mtn. Way
Flagstaff, Arizona 86001

Facility Location:

offshore of Nome, Alaska

Facility contact: Aaron Gustafson, Operator

II. FACILITY ACTIVITY

Dredging will be accomplished by a surface operated four wheel underwater crawler in a water depth of 50 to 60 feet. The crawler will transport a 20-inch suction nozzle, with a sluice/classifying box attached. The ¼ inch and larger material along with the lightweight ¼ inch minus material will exit the classifying box and be returned to the sea floor. The heavy ¼ inch and smaller material will be pumped to the surface through a 4-inch suction hose, sluiced and returned to the sea floor. Use of an underwater camera connected to the crawler will enable the surface personnel to selectively mine gold bearing sand and gravel and discharge within 3 feet of the natural sea floor. The estimated amount of material to be moved in an hour is 32 to 75 cubic yards (cy). Of this amount, 3 to 7 cy of heavy ¼ inch minus will be pumped to the surface. A 20-inch dredge is capable of moving many times more than 75 cy per hour but there will be volume limitation involved with the crawler and separation systems.

The mother boat is 18 feet wide and 48 feet long. It will be secured with up to four anchors.

III. RECEIVING WATER

The receiving water is the marine water of Norton Sound which is classified in 18 AAC 70 as Classes (2)(A), (B), (C), and (D) for use in aquaculture, seafood processing, and industrial water supply; contact and secondary recreation; growth and propagation of fish, shellfish, other aquatic life, and wildlife; and harvesting for consumption of raw mollusks or other raw aquatic life.

IV. EFFLUENT LIMITATIONS

“Permit writers must consider the impact of every proposed surface water discharge on the quality of the receiving water. Water quality goals for a water body are defined by State water quality standards. A permit writer may find, by analyzing the effect of a discharge on the receiving water, that technology-based permit limits are not sufficiently stringent to meet these water quality standards. In such cases, the Clean

Water Act and EPA regulations require development of more stringent, water quality-based effluent limits designed to ensure that water quality standards are met.” (1996, U.S. EPA NPDES Permit Writer’s Manual, p87.)

This suction dredge’s unique method of intake and displacement present unusual permitting issues. Operating under the surface of the water, only a small portion of the material dredge will be brought to the surface for processing then mined material will quickly be returned to the bottom. The larger portion of the material will be classified and returned to the bottom from the underwater vehicle at a height of about 3 feet above the bottom. For these reasons EPA has determined that numeric effluent limitations are not necessary. Instead, the BMPs in Permit Part II. have been developed. These BMPs, which are supplemented by required turbidity monitoring designed to ensure that the BMPs are being implemented properly, are, in this circumstance, sufficient to implement the requirements of the Act. That is, these practices would ensure that the beneficial uses designated by the State are adequately protected and justify the absence of more stringent technology and water quality-based effluent limitations.

Monitoring Requirements

Section 308 of the Clean Water Act and the federal regulations at 40 CFR § 122.44(i) require that permits include monitoring to determine compliance with effluent limitations. Monitoring may also be required to gather data for future effluent limitations or to monitor effluent impacts on receiving water quality. Mr. Gustafson is responsible for conducting the monitoring and for reporting results to EPA.

The permit requires a daily visual inspection for turbidity of the area within a 500 yard radius of the suction dredge during operation. This also includes any turbidity that may result from any other part of the operation in Norton Sound. If turbidity is observed beyond 500 meters, the permittee would be required to modify the operation to meet the permit limitation. If the operation could not be modified to meet the limit, the operation would not be authorized. In most cases, water quality recovers rapidly. The daily inspection during operation, combined with the BMPs in Permit Part II. should assure that the water quality standards are met.

The reporting requirement is based on 40 CFR § 122.48 which is specified in the permit as a submission of an annual report by November 30th of each year.

Best Management Practices Plan

Best management practices (BMPs) are measures that are intended to prevent or minimize the generation and the potential for the release of pollutants from industrial

facilities to the waters of the United States through normal operations and ancillary activities.

Pursuant to Section 402(a)(1) of the Clean Water Act, development and implementation of Best Management Practices (BMP) Plans may be included as a condition in NPDES permits. Section 402(a)(1) authorized EPA to include miscellaneous requirements in permits on a case-by-case basis which are deemed necessary to carry out the provision of the Act. BMPs, in addition to numerical effluent limitations, are required to control or abate the discharge of pollutants in accordance with 40 CFR § 122.44(k).

The proposed permit requires compliance with the following BMPs.

- A. Dredging, which results in undercutting, littoral channeling, or otherwise results in beach erosion, is prohibited.

This practice will ensure that beach erosion does not occur and that the finer sediments that may be found in these areas do not cause turbidity problems in the receiving waters.

- B. Winches or other motorized equipment shall not be used to move boulders, logs, or other natural obstructions.

This practice should ensure that habitat in these areas will not be destroyed.

- C. Suction dredges shall not operate within 650 meters of another dredging operation occurring simultaneously.

This practice should ensure that the mixing zone of this facility does not overlap with that of another since 650 meters is the distance of a 500 meter radial mixing zone for this operation and a designated 500 foot (approximately 150 meters) mixing zone authorized by the general permit for suction dredges.

- D. Dredging of concentrated silt and clay is prohibited.

This practice will decrease the amount of fine material that will be released into the water that could cause turbidity plumes in excess of the permitted distance.

- E. Care shall be taken by the operator during refueling of equipment to prevent spillage into public waters or to groundwater.

This practice will decrease the amount of spillage during refueling.

V. OTHER PERMIT CONDITIONS

Endangered Species Act

The Endangered Species Act requires federal agencies to consult with the National Marine Fisheries Service (NMFS) and the U.S. Fish and Wildlife Service if their actions could beneficially or adversely affect any threatened or endangered species. EPA sent a letter to the U.S. Fish and Wildlife Service on February 1, 1999, and to the National Marine Fisheries Service on February 8, 1999, requesting a species list for the area of the facility.

Essential Fish Habitat (EFH)

The 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act set forth a number of new mandates for NMFS, regional fishery management councils and other federal agencies to identify and protect important marine and anadromous fish habitat. Federal action agencies that may adversely impact EFH are required to consult with NMFS regarding the potential effects of their action on EFH. The February 8, 1999, letter to NMFS contained a determination that no adverse effect to EFH would result of the issuance of this permit.

State Certification

Section 401 of the Clean Water Act requires EPA to seek certification from the State that the permit is adequate to meet State water quality standards before issuing a final permit. The regulations allow for the State to stipulate more stringent conditions in the permit, if the certification cites the Clean Water Act or State law references upon which that condition is based. In addition, the regulations require a certification to include statements of the extent to which each condition of the permit can be made less stringent without violating the requirements of State law.

Part of the State's certification is authorization of a mixing zone. ADEC has indicated (personal communication with Pete McGee) that they may certify the mixing zone of 500 radial meters that is included in the draft permit.

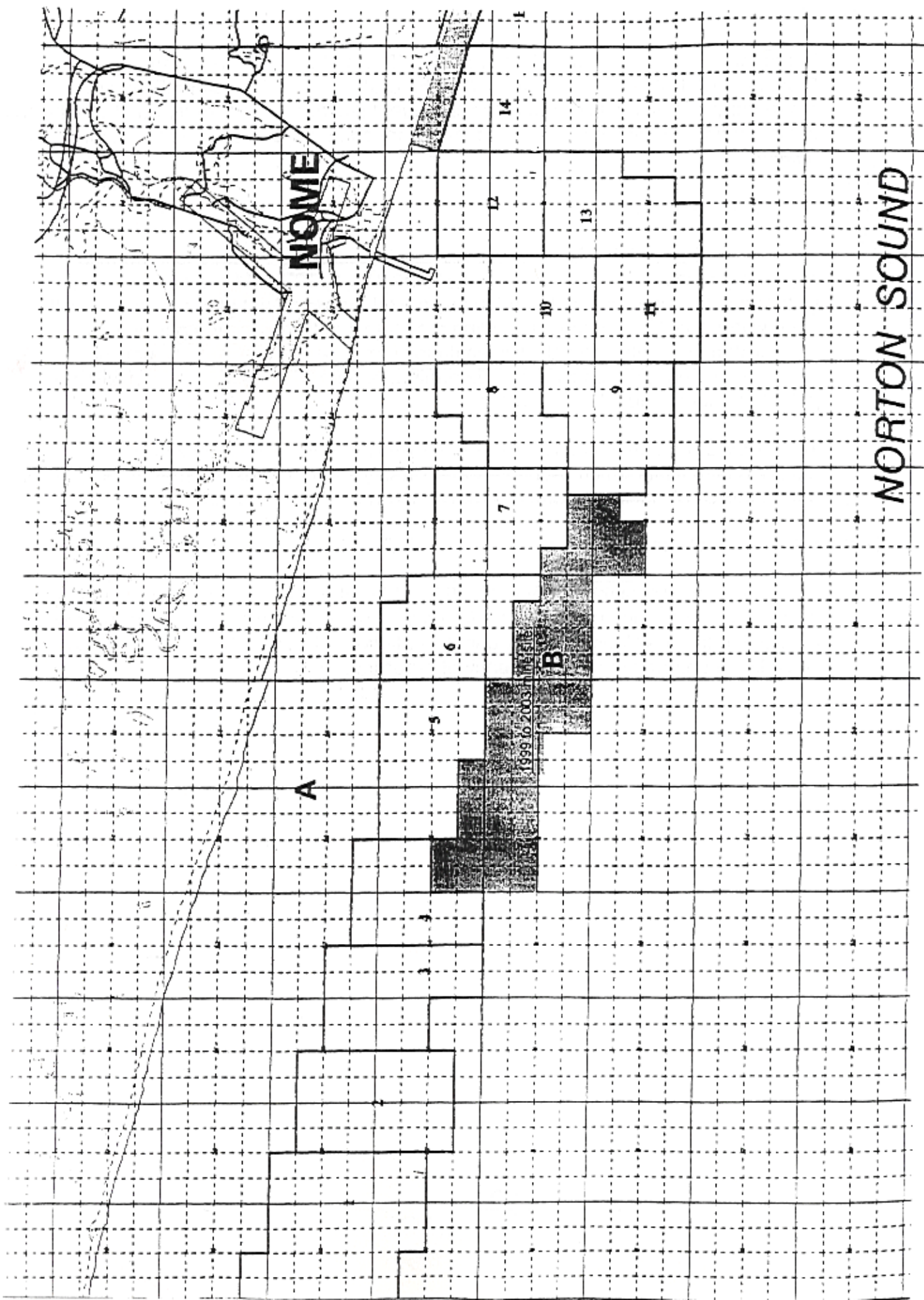
The draft permit has been sent to the State to begin the final certification process. If the state authorizes a different mixing zone in its final certification, EPA will change the permit based on the final mixing zone. If the State does not certify the mixing zone, EPA will deny the permit unless the applicant can show that a turbidity discharge limitation of 25 NTUs, the state's water quality standard, can be met at the discharge point.

Permit Expiration

This permit will expire five years from the effective date of the permit, but may be administratively extended if the conditions of 40 CFR §122.6(a) are met.

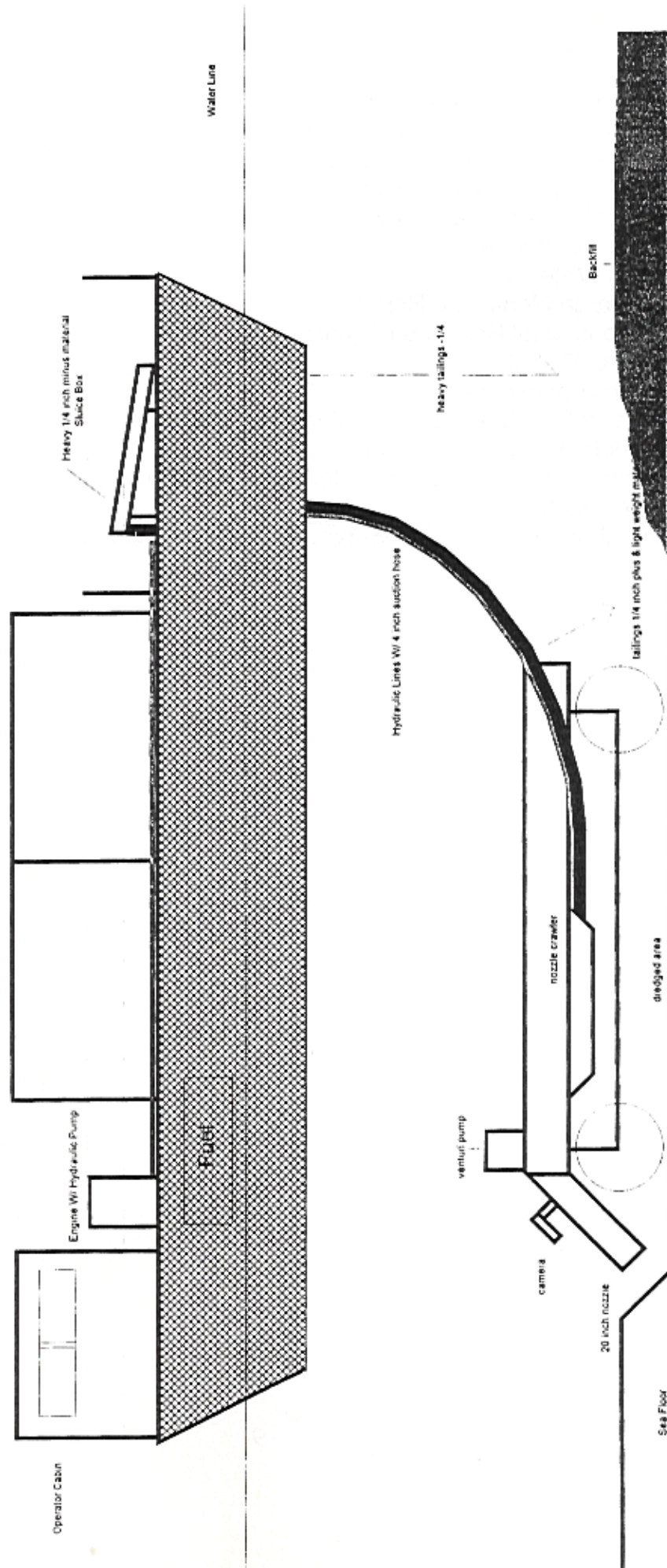
APPENDIX A -- LIST OF ACRONYMS

AAC	Alaska Administrative Code
ADEC	Alaska Department of Environmental Conservation
ADGC	Alaska Division of Governmental Coordination
AWQS	Alaska Water Quality Standard
BMP	Best Management Practices
CFR	Code of Federal Regulations
cfs	Cubic feet per second
CWA	Clean Water Act
DMR	Discharge Monitoring Report
EPA	Environmental Protection Agency
FR	Federal Register
gpm	gallons per minute
NPDES	National Pollutant Discharge Elimination System
NTU	Nephelometric Turbidity Unit
TSD	Technical Support Document for Water Quality-based Toxics Control
USC	United States Code
USGS	United States Geological Survey



Lease Location and Mine Sites
Operator: Aaron Gustafson

Note: Area "B" = ADL # 17929



APPENDIX C -- BASIS FOR EFFLUENT LIMITATIONS

Technology-based Limitations

Pursuant to the Act Section 402(a)(2) [40 CFR 122.44(k)(3)], Best Management Practices (BMPs) are being proposed in the draft permit. These practices are reasonably necessary either to achieve effluent limitations or to carry out the Act's goals of eliminating the discharge of pollutants as much as practicable and to maintain water quality.

Water Quality-based Limitations

Section 301(b)(1) of the Act requires the establishment of limitations in permits necessary to meet water quality standards by July 1, 1977. All discharges to state waters must comply with state and local coastal management plans as well as with state water quality standards, including the state's antidegradation policy. Discharges to state waters must also comply with limitations imposed by the state as part of its coastal management program consistency determination and of its certification of NPDES permits under section 401 of the Act.

The NPDES regulations at 40 CFR 122.44(d)(1) require that permits include water quality-based limits which "Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Section 308 of the Clean Water Act

Under Section 308 of the Act and 40 CFR § 122.44(i), the Director must require a discharger to conduct monitoring to determine compliance with effluent limitations and to assist in the development of effluent limitations. 40 CFR § 122.44(i)(2) allows flexibility in determining the frequency of reporting.

APPENDIX D -- REFERENCES

EPA, NPDES Permit Writer's Manual. Office of Water, Office of Wastewater Management, Permits Division. Washington, DC. 20460; EPA-833-B-96-003, December 1996, 220pp.

EPA, Technical Support Document for Water Quality-based Toxics Control. Office of Water Enforcement and Permits, Office of Water Regulations and Standards. Washington, DC, 20460; EPA/505/2-90-001, March 1991, 145pp.

The following references were used in an unpublished research effort entitled "A Review of the Regulations and Literature Regarding the Environmental Impacts of Suction Gold Dredges," April 1993 by Phillip A. North of the Environmental Protection Agency, Region 10, Alaska Operations Office.

Griffith, J.S. and D.A. Andrews. 1981. Effects of a small suction dredge on fishes and aquatic invertebrates in Idaho streams. *North American Journal of Fisheries Management* 1:21-28.

Hassler, T.J., W.L. Somer and G.R. Stern. 1986. Impacts of suction dredge mining on anadromous fish, invertebrates and habitat in Canyon Creek, California. Calif. Coop. Fish. Res. Unit., Humboldt State University, Arcata, California, Coop. Agreement No.14-16-009-1547, Work Order No. 2. 135 pages.

Harvey, B.C. 1986. Effects of suction gold dredging on fish and invertebrates in two California streams. *North American Journal of Fisheries Management* 6:401-409.

Huber, C. and D. Blanchet. 1992. Water quality cumulative effects of placer mining on the Chugach National Forest, Kenai Peninsula, 1988-1990. U.S. Forest Service, Chugach National Forest, Alaska Region. 74 pages.

Thomas, V.G. 1985. Experimentally determined impacts of a small suction gold dredge on a Montana stream. *North American Journal of Fisheries Management* 5:480-488.